

April 2005

## ISBN-13: Key Issues for Library Systems

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### Recommended Citation

Willan, Terry (2005) "ISBN-13: Key Issues for Library Systems," *Against the Grain*: Vol. 17: Iss. 2, Article 10.

DOI: <https://doi.org/10.7771/2380-176X.4791>

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the exterior of the book. Others anticipate issuing catalogs and announcements this fall season featuring only the **ISBN-13**. Such practices will cause service difficulties until all, or most, parties in the supply chain are 13-compatible.

- Will retailers and **ILS (Integrated Library System)** vendors get it, and when will they be ready? At **Ingram**, and presumably most other wholesalers and distributors, most business transactions now take place electronically through the systems utilized by library and retail customers. Industry surveys indicate the system vendors, in both retail and libraries, will have versions capable of dealing with **13-digit** identifiers by the January 1, 2007 implementation deadline. The significant question and

concern is whether or not individual libraries and retailers will have upgraded to the versions capable of "talking 13." If you are a library it behooves you to learn now when your system vendor will have an **ISBN-13** compatible version and what you need to do to upgrade to it.

- Can we keep a very large organization talking with the same voice? How can we make sure everyone knows what the company is doing to become **ISBN-13** compatible and when we are doing each step? While much of this can be controlled and managed through a detailed communication plan, the pervasiveness of the **ISBN** in the practices and processes of the industry dictate that this knowledge must be spread to nearly every staff member.
- What will be the impact of **OCLC's** decision to store the **ISBN-13** in the 024 tag until some time after the **Oracle** database is installed? This is a question

that should concern all libraries and others in the supply chain of **MARC** record distribution. Its implications are not yet understood.

In conclusion, becoming **ISBN-13** compatible is a critical necessity for all members of the book industry supply chain. Although the deadline is not hard coded into our systems as **Y2K** was, the lessons we learned then about reviewing each of our processes can be leveraged in this endeavor. At **Ingram** we are learning that (due to our architecture) the IT challenges, while widespread, are not difficult. Our challenges are in managing the transition period when both **ISBN-10** and **ISBN-13** are in play—a period that may last until the last book of the **ISBN-10** era turns to dust. As noted, we are also learning that the IT challenges are only a part of those that must be conquered. If you have not begun your **ISBN-13** compatible plan yet, finish this **ATG** issue and get started! 

## ISBN-13: Key Issues for Library Systems

by **Terry Willan** (Standards Manager, Research Group, Talis Acquisitions EDI) <terry.willan@talis.com>

The **ISBN** is obviously a vital data element in the library book acquisition process: it identifies the product being bought. According to the "Guidelines for the Implementation of 13-Digit ISBNs" produced by the **International ISBN Agency** (<http://www.isbn-international.org/en/download/implementation-guidelines-04.pdf>), starting January 1st, 2007, all **ISBNs** quoted in trading must be in the **13-digit** form, even for books published with only a **10-digit ISBN**.

To enable a transition where trading partners can modify their systems independently and continue trading without disruption, the **Book Industry Study Group (BISG)** has published "EDI Strategies for the Book Industry and the 13-Digit ISBN" ([http://www.bisg.org/docs/BISG\\_EDI\\_Roadmap.pdf](http://www.bisg.org/docs/BISG_EDI_Roadmap.pdf)). This recommends a dual-use approach, where both forms of **ISBN** are carried in all **EDI** messages so that the recipient system can switch from using the **ISBN-10** to the **ISBN-13** in its own time. This will work until publishers begin to assign **13-digit ISBNs** beginning 979, some time after January 1st 2007.

The first step is to modify systems to send both forms of **ISBN** as soon as possible and to ensure that receiving them in **EDI** messages, even if they are not used in processing, does not cause a problem. The old **BISAC** format, which has fixed length fields, will not support **ISBN-13**, so systems that still use it will have to start using a more modern **EDI** format such as **ASC X12**, **EDIFACT** or the new **XML**-based format. In **EDIFACT**, the already defined **EAN** area will be used to carry the **ISBN-13**.

Libraries should be planning for their systems to be processing the **ISBN-13** or **EAN** in-

stead of the **ISBN-10** in all **EDI** messages received, by the end of 2006.

### Libraries have Continuing 10-digit Needs

The publishing and bookselling parts of the book industry can and will move exclusively to using **ISBN-13**, even for publications that were originally assigned a **10-digit ISBN**, which will gradually disappear. But books with **10-digit ISBNs** will exist in libraries indefinitely. Librarians will continue to process them for various reasons (acquiring older books; interlibrary loans) and patrons will continue to need and look for them. Both librarians and patrons may start from information that only gives the **10-digit ISBN**.

So library systems should allow users to be unaware of **ISBN** revision. For those **ISBNs** that can be translated uniquely between 10 and 13 digits (that is, all **10-digit ISBNs** and those **13-digit ISBNs** beginning 978), users should be able to retrieve records using either form. When entering data, librarians should be able to record the **ISBN** in the form(s) given in the item. This latter point means that **ISBNs** in existing bibliographic records do not need to be converted. Also, the **MARC** format does not need to be modified because the **ISBN** field (tag 020) can already accommodate **ISBN-13**.

### Display and Printing

**ISBNs** are displayed in many places throughout library systems, in both front-office and back office modules. This may in-

clude displays of outputs from batch processes. Systems need to be able to display both **10-digit** and **13-digit ISBNs**, whichever occurs in the data. Does the screen real estate allow for longer **ISBNs**? Printed outputs may be more likely to have real estate restrictions. These could cover a wide range from reports supporting staff activities such as cataloging, to overdues and other notices to patrons.

### Validation of Data Entry

In some systems **ISBNs** may be validated when entered as data, such as in a **MARC** cataloging record, a purchase order or inter-library loan request form. Perhaps they are validated when entered in a search query. If so, both **ISBN-10** and **ISBN-13** should be allowed as valid.

Furthermore, in Acquisitions, when ordering an older book and the source information only gives the **ISBN-10**, the system should translate it to **ISBN-13** for use in the **EDI** Order message. The **BISG** Website has an explanation of how to convert **ISBN-10s** into **ISBN-13s**: [http://www.bisg.org/barcoding/isbn13\\_changes.html/#6](http://www.bisg.org/barcoding/isbn13_changes.html/#6).

### Indexing and Search

To fulfill the need to allow searching on dual forms of **ISBN** regardless of the form(s) of the **ISBN** in the bibliographic record, it is highly likely that changes will be required to indexes and search interface software. How this is achieved internally is up to each system vendor.

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One approach, which is being looked at by several ILS vendors, is to convert all ISBNs in indexes to their 13-digit form and to normalize 10-digit ISBNs in search queries to 13 digits on the fly. ISBNs could occur not only in a specific ISBN index and search option, but also in others such as keywords. Within the ILS, there will be relevant search interfaces in most staff modules as well as the public access catalog (OPAC), including cataloging, acquisitions and inter-library loans.

The same search issues as described above will apply to any software that allows remote applications to search your catalog, typically via the z39.50 protocol. Conversely, many libraries have metasearch tools to search across multiple diverse sources using a variety of protocols. The impact of ISBN-13 on the protocol-handling software will need to be checked and it would be advisable to talk to those targets that support ISBN searching about their plans to implement ISBN-13, to ensure a trouble free transition.

### Linking

Increasingly, library systems are linked to and from external content and services. Often, the linking mechanism includes an ISBN, so libraries and system vendors should be checking these and communicating with the content and service providers. Examples include

**Enrichments:** images, tables of contents, summaries, reviews, etc. accessed from remote services in real time to build results pages

**eBooks:** the ISBN is probably in the URL when the user accesses the full text

**Open URL link resolvers:** ISBNs may occur, perhaps for eBooks

Institution portals are increasingly incorporating components of library system functionality, such as the display of "my account" information, where the interaction may involve ISBNs

**Learning Management Systems** can be linked in either or both directions with library systems, typically extracting bibliographic data from the library system

**Reading List and E-Reserve Systems,** typically extracting bibliographic data from the library system and being accessed from within the OPAC (e.g., which reading lists is this book on?)

**Booksellers systems,** possibly linked from the acquisitions module, perhaps to dynamically access price and availability information.

### Record Identification and Matching

Most library systems can import bibliographic records, both online and in batches. Typically, incoming records are matched by ISBN (and maybe other elements) against the database to detect duplicates. Similarly, it is common for metasearch systems to deduplicate or merge results from multiple sources; again,

the ISBN plays a major part. These will need to accommodate ISBN-13 and be able to cope with a mixed picture where the same ISBN could occur in both 10-digit and 13-digit forms from different sources.

### Phew! Anything else?

Physical union catalogs face the same issues on a larger scale as local library catalogs, needing to take account of ISBN-13 in deduping and in making ISBN revision transparent for search. There may be additional issues regarding holdings notification and updating, which could also affect the contributing library systems, depending on the format and protocol used. Virtual union catalogs face the same issues as metasearch systems.

Systems supporting resource sharing and consortial borrowing use ISBNs. Since these are about interoperability, it is important to communicate with partner organizations as well as to check software, to avoid disruption.

Binding management modules are likely to be affected, and serials management should be checked, since ISBNs can be related to serials in some cases. Other systems using non-MARC

bibliographic metadata might also be affected, such as systems for managing digital content and learning objects.

Finally, don't forget your barcode scanners! Usually, those used for scanning the barcode on the back of the book are programmed to convert the barcode EAN to the 10-digit ISBN. Ideally, scanners used for searching should be re-programmed when indexing and search have been ISBN-13 enabled, and certainly before numbers with prefix 979 appear. For data entry, such as into a MARC record, you should enter 10-digits and/or 13 digits, depending on what is in the book. The optimum time to reprogram scanners for this purpose will be when 13-digit ISBNs start to occur more than 10-digit ISBNs.

### Conclusion

The ISBN is a core identifier and enabler in complex library systems. Librarians need to check their systems, plan for change and talk to system vendors, materials vendors, consortial and ILL partners, linked content and service providers and consumers, and anyone else who might be relevant. 🐼



## ISBN-13 and OCLC: An Interim Solution

by Glenn Patton (Director, WorldCat Quality Management, OCLC, Inc.) <pattong@oclc.org>

The transition to the 13-digit ISBN began at a particularly awkward time for OCLC. Over the past several years, OCLC has been transitioning its database, WorldCat, and the various interfaces to it to new platforms. That work is to be completed in the summer of 2005 at which point the legacy systems will be decommissioned. Since nearly all those legacy interfaces as well as the software used to load records into WorldCat performs some level of structure checking for the ISBN whether the user is searching or editing, OCLC staff quickly reached the conclusion that it would not be a cost-effective use of scarce resources to modify the legacy systems to accommodate the ISBN-13.

For this interim period until the new systems can be modified to handle the ISBN-13, OCLC asks that users input 13-digit ISBNs in MARC21 field 024 (Other Standard Identifier) with a 1st indicator value of "3" which designated them as European Article Numbers (EANs) as they indeed are. For records that are loaded into WorldCat from our various trading partners (including the Library of Congress), OCLC's loading software moves ISBN-13s from

MARC field 020 to field 024. The software also generates and adds a 10-digit ISBN if one is not already in the record.

For searching purposes, OCLC indexes ISBN-10s and ISBN-13s (along with a variety of other standard numbers) in a keyword-based Standard Number Index. OCLC also provides an ISBN index but, for this interim period, this is limited to ISBN-10s only.

OCLC staff realize that this interim solution is not an ideal one and we are putting a priority on making the necessary changes as soon as possible after the system migration effort ends. Full information about the interim solution can be found on the OCLC Website at <http://www.oclc.org/news/announcements/announcement96.htm>. Updated information will also appear there as plans are finalized. 🐼

## Future Dates for Charleston Conferences

	Preconferences and Vendor Showcase	Main Conference
2005	2 November	3-5 November
2006	8 November	9-11 November
2007	7 November	8-10 November